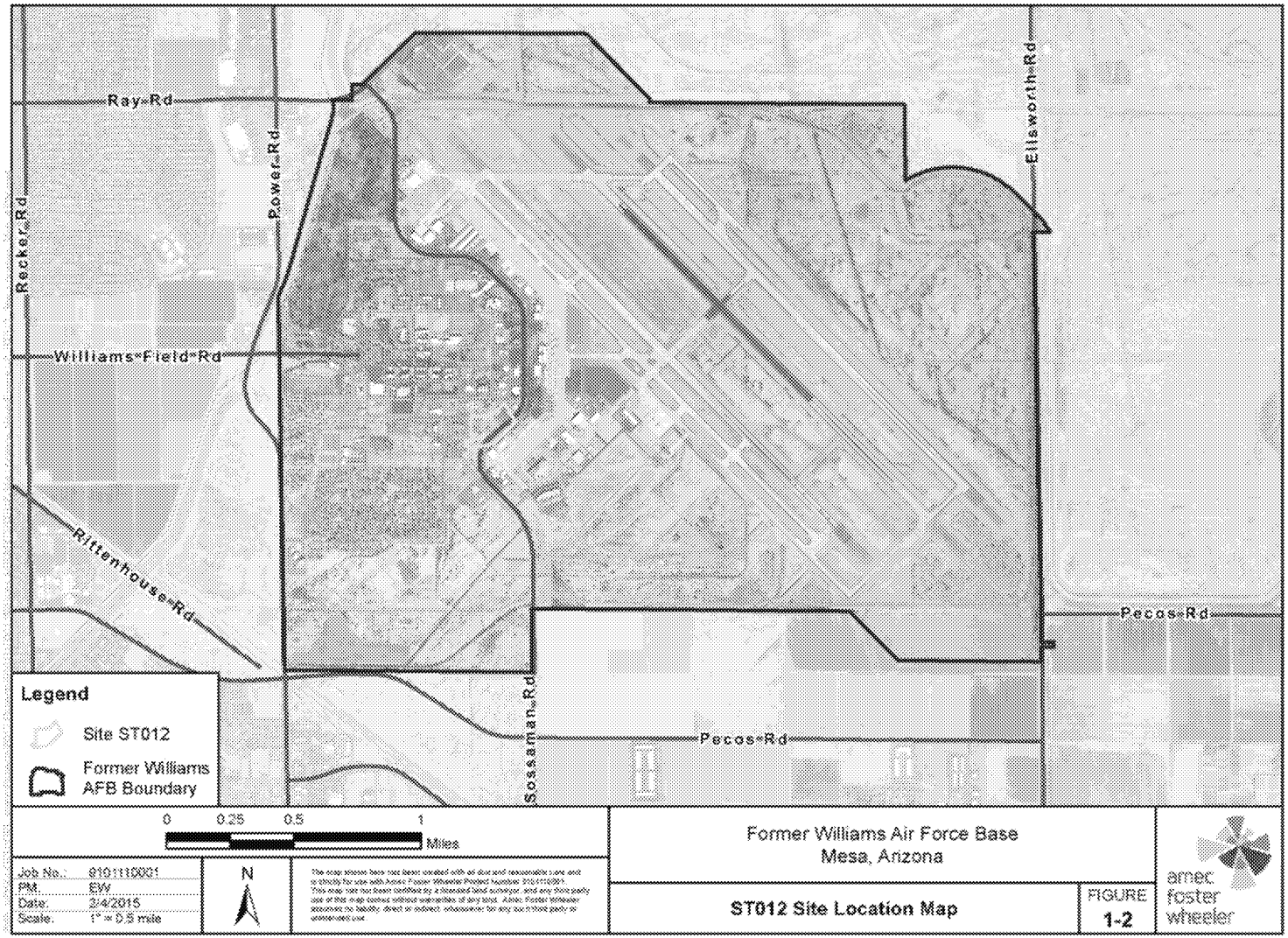
Air Force Civil Engineer Center

SITE ST012, FORMER LIQUID FUELS STORAGE AREA

REMEDIAL ACTION

Battle Ready...Built Right!

Site ST012 Site Location Map



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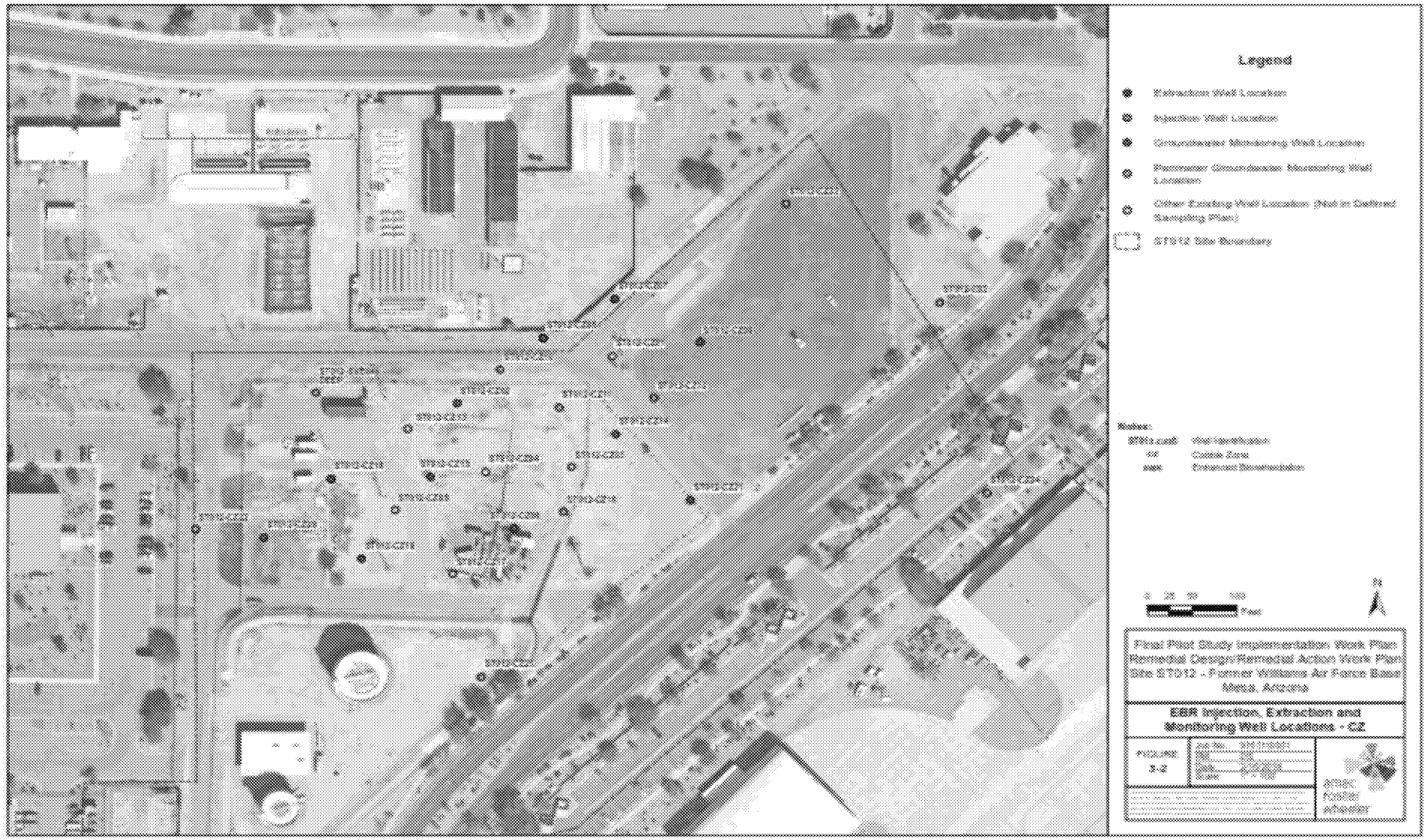
ST012 Cobble Zone Well Locations



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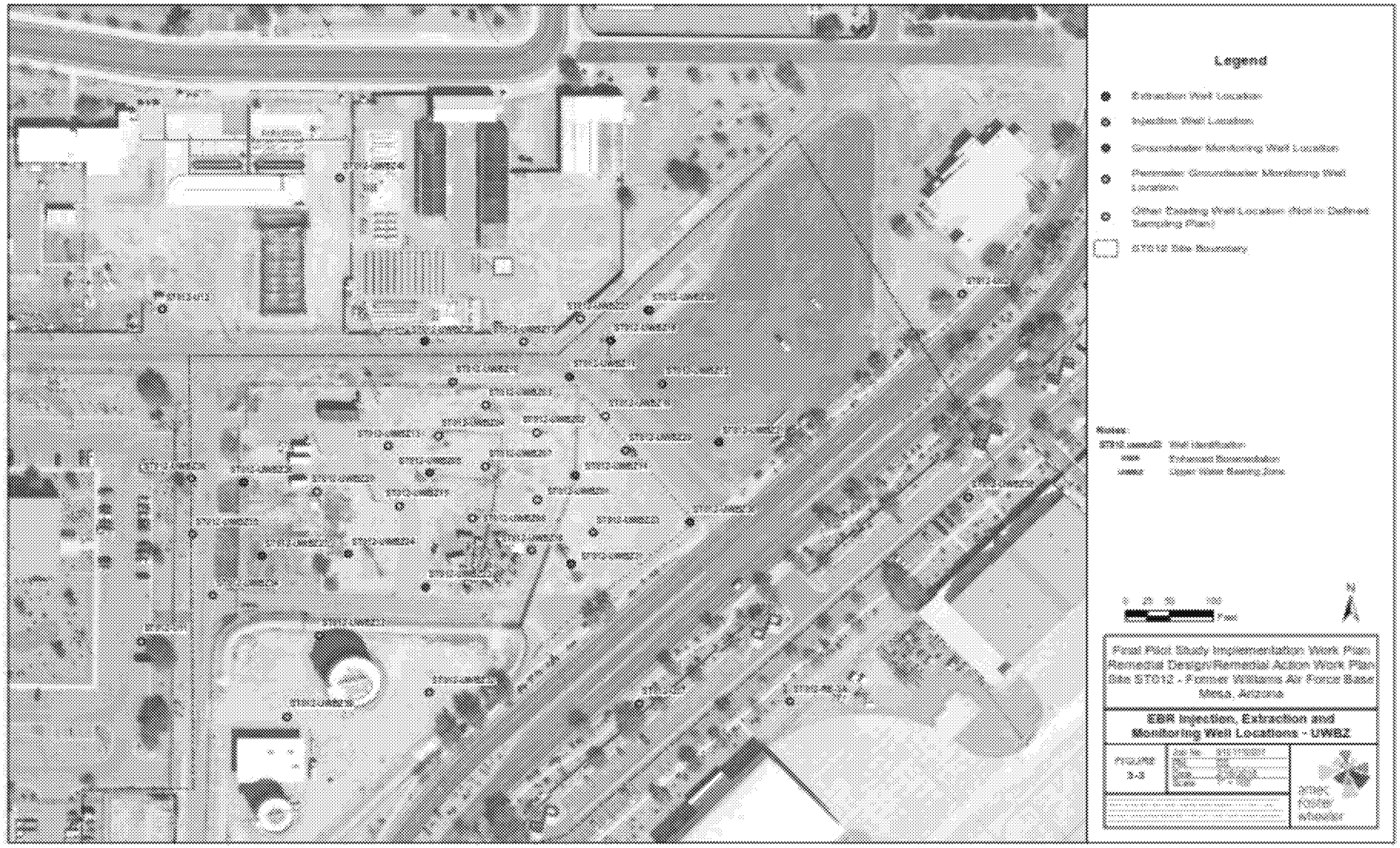
ST012 Upper Water Bearing Zone Well Locations



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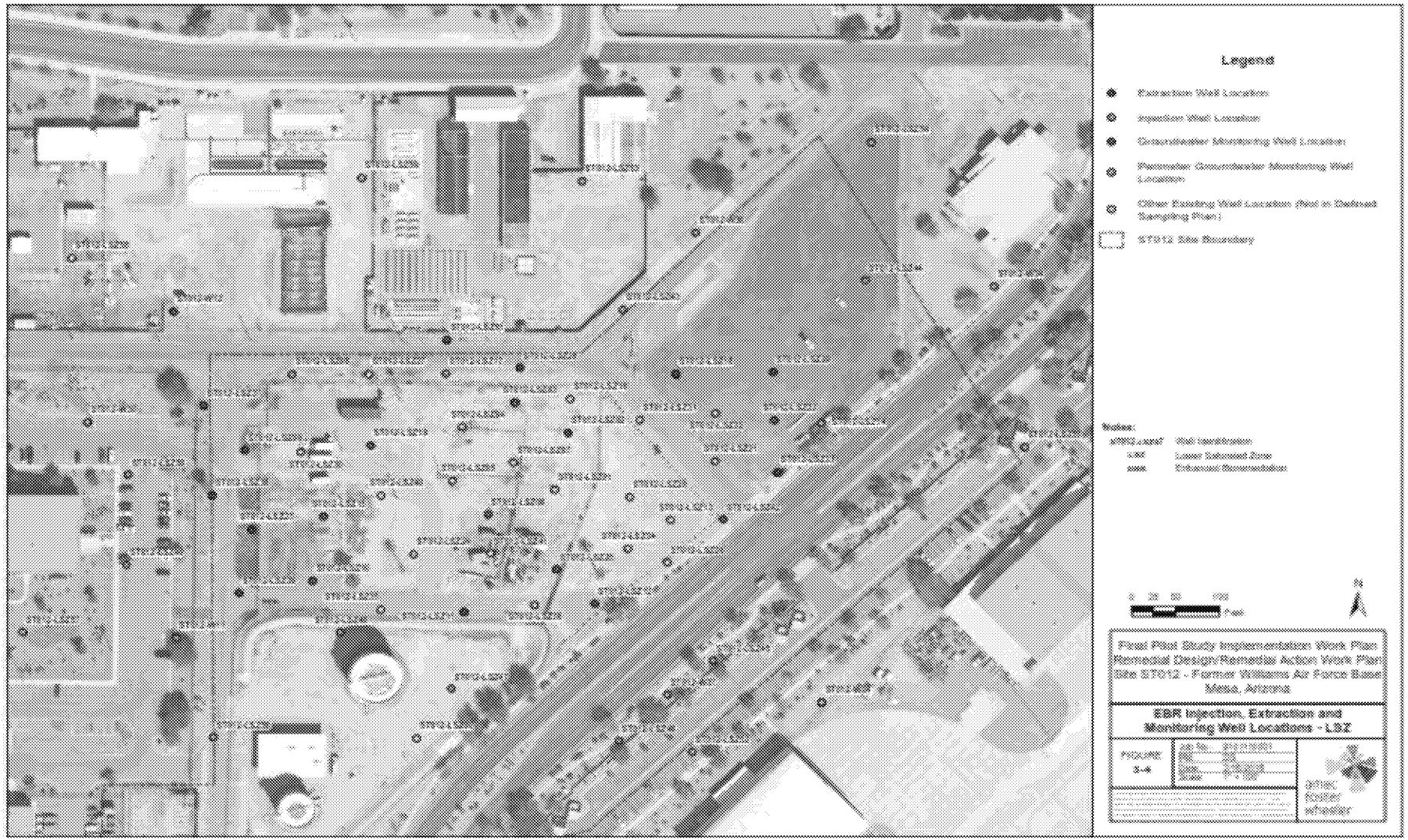
ST012 Lower Saturated Zone Well Locations



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ST012 PROGRESS

- Steam Enhanced Extraction (SEE) Startup — Sep 2014
- SEE complete — Mar 2016
- SVE operation — Apr 2005 – Present
- Pilot Study Construction — May 2016 – Jun 2018
- Additional Site Characterization — Sept 2016 – Present

- Total contaminant mass removed by SEE: Approximately 2,650,000 pounds of Total Petroleum Hydrocarbons (TPH) (equivalent to approximately 400,000 gallons)

ST012 SVE System Update

- TPH removed from Mar 2016 –Jun 2018: Approximately 60,000 gallons
- Total TPH removed: Approximately 380,000 gallons

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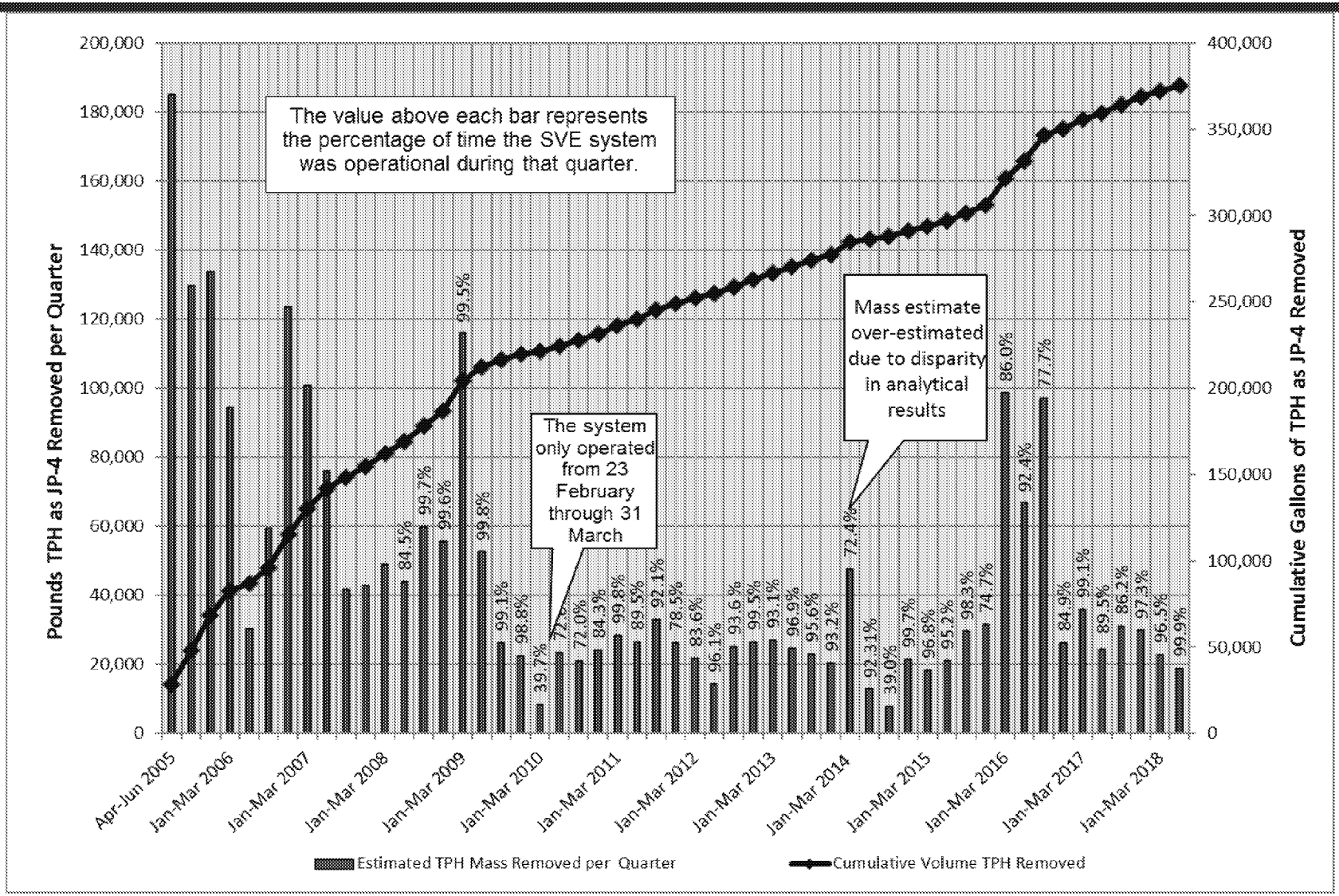
Site ST012 SVE System Performance



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ST012 ENHANCED BIOREMEDIATION

- EBR is the process of modifying existing conditions to promote biological activity among bacteria that feed off of contamination present at the site
- EBR will be used primarily around the periphery of the site to complete treatment of remaining contamination
- The EBR design consists of injection and extraction wells within a multiple treatment zones and will be implemented in several phases.
- A terminal electron acceptor such as sulfate will be injected into the subsurface to stimulate microbial degradation of the residue contamination in soil and groundwater
- Phase 1 EBR is expected to operate for 12-18 months. Subsequent phases and optimization will be determined by evaluation of the Phase 1 EBR data.

Site ST012 Remediation System Recent and Upcoming Activities

- Complete additional characterization activities
- Implement Phase 1 EBR pilot study
- Evaluate Phase 1 pilot study effectiveness
- Continue groundwater monitoring
- Continue SVE operation